massDOT
Massachusetts Department of Transportation
Aeronautics Division

Board Report:

Aeronautics Program Updates, Airport Pavement Management System Update & Unmanned Aircraft Systems (UAS)

Monday September 16, 2019

Presented to:

- **Board of Directors**

Presented by:

- **Aeronautics Division**
  - Dr. Jeff DeCarlo

Aeronautics Update: STEM Education Real World Design Challenge (RWDC)

- The Real World Design Challenge is a public-private partnership aimed at increasing the Science, Technology, Engineering and Mathematics (STEM) workforce of the future. MassDOT has been an RWDC state sponsor since 2008
- RWDC provides high school students with the opportunity to work on real world engineering challenges in a collaborative environment applying the lessons of the classroom to the technical problems of the workforce
- The RWDC industry challenge for 2020 is to design a Small Unmanned Aircraft System to support small package delivery in an urban environment
- Students will spend several months generating solutions to the industry challenge and are required to produce an engineering notebook for their team's design
- The winning team from each state will compete in the National event held in Washington D.C. in April 2020. The top national winners will receive scholarships, awards and recognition from leaders in government, industry and higher education

Aeronautics Update: Capital Program Capital Improvement Plan (CIP)

- MassDOT is working with the FAA to better align the state's CIP process with the FAA's Airport Capital Improvement Program
- By completing airport CIP meetings earlier, we can better identify state and local priorities that enhance safety, performance, and innovation
- Timely and effective project selection will allow for additional leveraging of federal funds for airport development priorities

State CIP Meeting Schedule SFY 2020

Airport	CIP Date	Airport	CIP Date	Airport	CIP Date
Norwood	Aug 22	Nantucket	Sep 11	Taunton	Sep 25
New Bedford	Aug 23	Beverly	Sep 13	Westfield	Sep 26
Martha's Vineyard	Aug 27	Fitchburg	Sep 13	Marshfield	Sep 26
Northampton	Aug 30	Southbridge	Sep 16	Lawrence	Sep 26
Chatham	Sep 04	Gardner	Sep 18	Pittsfield	Sep 27
Plymouth	Sep 05	Turner's Falls	Sep 20	Mansfield	Oct 02
Barnstable	Sep 06	North Adams	Sep 24	Westover	Oct 02
Provincetown	Sep 09	Orange	Sep 25		

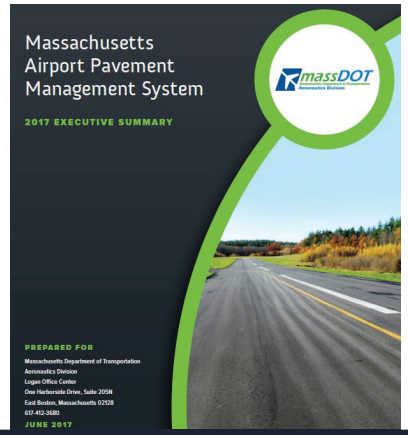
Aeronautics Update: Vegetation Management Tree Cutting at Norwood Airport

- MassDOT cleared approximately 4 acres of trees that were obstructing the control tower's view of arriving and departing aircraft on Runway 35
- The project was completed in 10 days during the airport's peak operational period in July
- Timely response allowed the airport to keep the Runway open increasing the safety of flight operations
- MassDOT conducted a safety inspection of the cleared area with airport management and tower personnel
- Aeronautics staff received a letter of appreciation from the Town of Norwood for their diligent construction monitoring efforts during the tree clearing process

Trees obstructing view of Runway 35

Airport Pavement Management System (APMS) Update

- The Aeronautics Division will conduct an update to the 2016 Airport Pavement Management System (APMS) Study
- The APMS Study will use statistical analysis to model payment degradation over time at Massachusetts public use airports
- The analysis is required every three years by the FAA
- Results from the Study will drive future funding decisions for pavement maintenance and major capital projects
- The RFP has been sent out for Solicitation
- Responses are due by mid-September
- Pavement Condition Index surveys will begin in October
- Project completion is scheduled for early Spring 2020



Unmanned Aerial Systems (UAS)

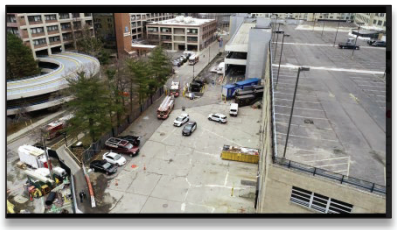
- MassDOT's operating divisions continue to identify areas where UAS can cost-effectively and safely delivery core mission elements
- Aeronautics continues to facilitate this initiative
  - Expand use-cases, customers, locations, and technologies
  - Advise, assist, and share UAS policy, procedures and best practices with other Commonwealth Agencies

District Support

D2 Agawam Bridge
Aerial Imagery

D3 HQ
Construction Monitoring

Statehouse Dome
Structure Assessment



MBTA Drill
Security Exercise

FEMA/MEMA
Emergency Service